



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

2a

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/070,071	06/27/2002	Alf Hammes	ZOU-1999DE507	7262

7590

03/22/2006

Richard S. Roberts
Roberts & Roberts, LLP, Attorneys at Law
P.O. Box 484
Princeton, NJ 08542

EXAMINER

WHITE, EVERETT NMN

ART UNIT	PAPER NUMBER
----------	--------------

1623

DATE MAILED: 03/22/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/070,071	HAMMES, ALF	
	Examiner	Art Unit	
	Everett White	1623	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 06 February 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-8,10,11 and 19-21 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-8,10,11 and 19-21 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on February 6, 2006 has been entered.
2. The amendment filed December 27, 2005 has been received, entered and carefully considered. The amendment affects the instant application accordingly:
 - (A) Claims 9 and 12-18 have been canceled;
 - (B) Claim 1 has been amended;
 - (C) Comments regarding Office Action have been provided drawn to:
 - (I) 103(a) rejection, which is rendered moot by new ground of rejection over newly cited US Patent.
3. Claims 1-8, 10, 11 and 19-21 are pending in the case.
4. The text of those sections of title 35, U. S. Code not included in this action can be found in a prior Office action.

Claim Rejections - 35 USC § 103

5. Claims 1-8, 10, 11 and 19-21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Traill et al (US Patent No. 1,943,461, already of record) in view of Pyle (US Patent No. 2,746,958, newly cited).

Applicant claims a process for the depolymerization of hot water-coagulable cellulose ethers by hydrolytic degradation by means of acids, wherein the degradation is carried out at a temperature above the cloud point of the cellulose ether as concentrated aqueous slurry, and in addition, at least one oxidizing agent is added to the concentrated aqueous slurry, before, during and/or after the depolymerization in acidic or neutral medium. Additional limitations in the dependent claims include specific

Art Unit: 1623

cellulose ethers; the viscosity of the degraded cellulose ether; the use of mineral acids and /or organic acids as the acids; specific mineral acids; the weight ratio of water to cellulose ether; specific oxidizing agents; specific amounts of oxidizing agents; the use of specific aqueous solution of a basic salt to washed the degraded cellulose ether after depolymerization.

The Traill et al patent discloses a process of treating high viscosity cellulose ether with a dilute acid at elevated temperature and pressure until the viscosity of the ether has been reduced as far as desired. The Traill et al patent discloses that the preparation of the cellulose ether preferably involves heating high viscosity cellulose ether with a dilute acid or a mixture of dilute acids (see page 1, 1st column, lines 17-21 and 33-38). The acids used in the process of the Traill et al patent may be either inorganic or organic and a single acid or a mixture of acids, diluted with water or other diluents compatible there-with. Examples of acids, which may be adapted for use in the process of the Traill et al patent are hydrochloric, oxalic, acetic, formic, sulphuric, and phosphoric acids, and acid sulphates (see the paragraph bridging the columns on page 1) , which are similar or identical to the acids employed in instant Claims 4, 5 and 20. See Example 1 of the Traill et al patent wherein ethyl cellulose is heated in an autoclave with ten times their weight of a 0.5% aqueous solution of hydrochloric acid, which resulted in cellulose ether having a viscosity of between 5-10 c.g.s units. The process of the instant claims differ from process of the Traill et al patent by claiming the addition of at least one oxidizing agent to the aqueous slurry, before, during and/or after the depolymerization in acidic medium.

However, the Pyle patent shows that the employment of oxidizing agents in processes for preparing cellulose derivatives is well known in the art. Such processes are demonstrated in Examples 4 and 5. In the method of Example 4, the Pyle patent discloses cellulose ether being added to an aqueous solution of bleaching agent, and an acidified aqueous swelling medium being added to the resulting mixture. Pyle discloses that the mixture, having a pH of 1.5 to 3.5, was maintained at a temperature of 50° to 100° C for a period of 0.25 to 5 hours. In the method of Example 5 the Pyle patent discloses a mixture of water, bleaching agent and organic solvent being formed

Art Unit: 1623

initially, and then cellulose ether added. Subsequently, additional solvent and acid were added to produce a mixture or slurry having a pH of 1.5 to 3.5. Pyle discloses that this mixture was then maintained at a temperature of 50° to 100° C for a period of 0.25 to 5 hours to effect the desired treatment of the cellulose ether (see column 5, lines 23-35). See column 5, lines 53 and 54, wherein the bleaching agent thereof is preferably sodium chlorite, which is identical to the sodium chlorite set forth in instant Claim 7 as an oxidizing agent. See column 6, lines 12-15, wherein the Pyle patent discloses that the cellulose ether resulting from the bleaching operations is subject to rapid oxidation and depolymerization upon exposure to heat unless properly stabilized. See column 4, lines 23-25 for examples of cellulose ethers that can be used in the process of the Pyle patent, which embraces the cellulose ethers disclosed in instant Claim 2.

Applicants have only combined two well-known procedures for depolymerizing cellulose ethers to form the claimed process, that is, the process of using acids as disclosed in the Traill et al patent and the process of using oxidizing agents as suggested in the Pyle patent.

One would be motivated to combine the teachings of the Traill et al and Pyle patents in a rejection of the claims under 35 U.S.C. 103 since both patents disclose procedures for depolymerizing or reducing cellulose ethers. It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the process of using an acid to depolymerize cellulose ethers as disclosed in the Traill et al patent with process steps that involve treating the cellulose ether with an oxidizing agent that could also depolymerized cellulose ethers, in view of the recognition in the art, as evidenced by the Pyle patent, that incorporation of an oxidizing agent with an acidic depolymerization procedure results in a color-stable cellulose ether product.

6. Applicant's arguments with respect to Claims 1-8, 10, 11 and 19-21 have been considered but are moot in view of the new ground(s) of rejection.

Summary

7. All the pending claims (Claims 1-8, 10, 11 and 19-21) are rejected.

Art Unit: 1623

Examiner's Telephone Number, Fax Number, and Other Information


8. For 24 hour access to patent application information 7 days per week, or for filing applications, please visit our website at www.uspto.gov and click on the button "Patent Electronic Business Center" for more information.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Everett White whose telephone number is (571) 272-0660. The examiner can normally be reached on Monday-Friday from 9:30 AM to 6:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Shaojia A. Jiang, can be reached on (571) 272-0627. The fax phone number for this Group is (571) 273-8300.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (571) 272-1600.


E. White


Shaojia A. Jiang
Supervisory Primary Examiner
Technology Center 1600